



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/624,222 07/24/00 ASAO

MMC2/1031

ROBERT J SEAS JR
SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVENUE N W
WASHINGTON DC 20037-3213

EXAMINER

ART UNIT	PAPER NUMBER
----------	--------------

DATE MAILED:

10/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/624,222

Applicant(s)

ASAO ET AL.

Examiner

Tran N Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 12 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Restriction/Election

Applicant elected claim 1 without traverse, filed on 10/12/01, is acknowledged. The *restriction* is hereby made final.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase (US 6147432) in view of Adachi (JP 09103052A) and Ringland (US 2821641).

Kusase discloses an alternator substantially as the claimed alternator. Kusase particularly discloses a stator with slots. Each of the stator slot having plural conductor segments arranged in inner layer and outer layer, wherein the winding folding back outside the slots at axial end surfaces of the stator core (figs. 1-4). Kusase discloses windings are formed by conductor segments arranged in layers, but Kusase is silent about the structure of each conductor segments, i.e., the conductor segments are solid electrical conducting bars or stranded wires formed into individual conductor segments. Thus, Kusase *differs* for the claimed invention in the following two respects:

(a) the stator core being provided with an abutting portion extending axially for forming the stator core into an annular shape;

(b) the winding portions with long strands of wire are wound and arranged alternately in an inner layer and outer layer within the stator slots.

Regarding respect (a), Adachi, however, teaches an alternator having a stator core with an abutting portion (51b) extending axially for forming the stator core into an annular shape (fig 1-3). Adachi teaches that this configuration of the stator core would facilitate the winding and prevent damage to the conductors of the winding. Furthermore, the Examiner takes Official Notice that magnetic core comprises with axially elongated segment(s) that circumferentially being combined into an annular magnetic core is well known in the art. See cited references for support of this statement.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify Kusase's alternator by configuring the stator core with an abutting portion extending axially for forming the stator core into an annular shape, as taught by Adachi. Doing so would facilitate the winding and prevent damage to the conductors of the winding.

Regarding respect (b), Ringland, however, teaches a high voltage winding structure of the type is used in alternator, wherein the winding structure (10) comprises plural strands of wire arranged in the slot by inner and outer layers (figs 1-5). Those skilled in the art would realize that stranded conductors being used as stator winding in alternator (A.C generator) are well known. These stranded-conductor layers, i.e., strands of wire wound into layers that disposed in the stator slots of an alternator would reduce eddy currents and resulted losses.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify Kusase's alternator by configuring the stator's conductor segments as long strands of

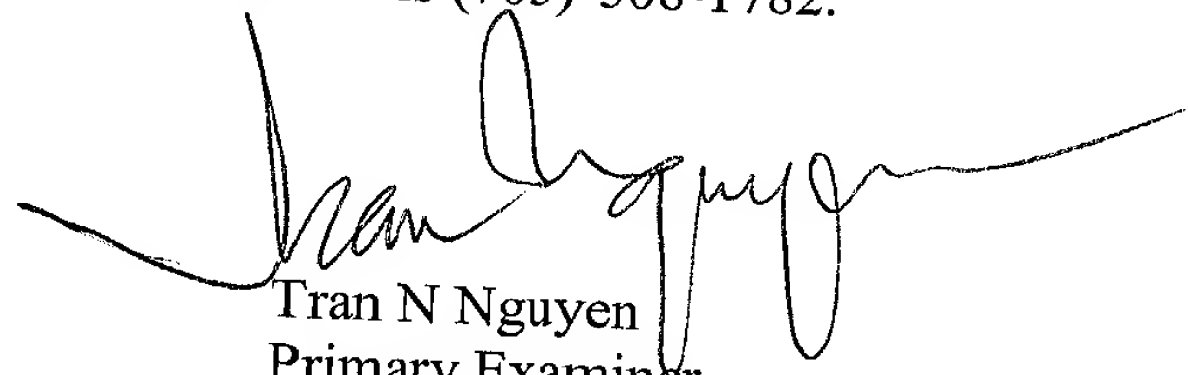
wire are wound and arranged alternately in an inner layer and outer layer within the stator slots, as taught by Ringland. Doing so would reduce eddy current and generated heat therein. Furthermore, the Examiner takes Official Notice that stranded conductors are well known as winding element in an armature/stator of an alternator. See cited refs.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.


Tran N Nguyen
Primary Examiner
Art Unit 2834

October 24, 2001